

CLAIMS

~~1. A method of assembling a concentric shaded pole~~
subfractional horsepower induction motor, the motor
including

5 a stator,
at least one field winding,
an armature rotatable in a central opening in the
stator core about a longitudinal axis of the stator core,
comprising the steps of

10 (a) winding wire on at least one bobbin;
(b) assembling the outer portion of the stator core by
stacking in registration a plurality of
laminations each of substantially equal shape and
dimension one on top of the other, said outer
15 portion circumscribing and defining a first inner
open space;

(c) assembling the inner portion of the stator core by
stacking in registration a plurality of
laminations each of substantially equal shape and
20 dimension one on top of the other, said inner
portion of said stator core circumscribing and
defining a second inner open space and shaped and
dimensioned to receive shaded poles and to receive
said bobbin;

25 (d) installing said bobbin and at least a pair of
spaced apart shaded poles on said inner portion of
said stator core;

(e) inserting said stator core in said inner open
space in said outer portion; and,

30 (f) inserting an armature in said second inner open
space, said armature including a rotatable shaft.

2. The method of Claim 1 including after step (f) the
additional step of attaching at least one bracket to said
outer portion of said stator core with a bearing
intermediate and contacting said armature and said bracket
35 ~~and at least partially circumscribing said rotatable shaft.~~

3. A concentric shaded multiple-pole subfractional
horsepower induction motor including

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#1

- 5 (a) a stator including
- (i) an outer portion including a plurality of registered laminations each of substantially equal shape and dimension stacked one on top of the other, said outer portion circumscribing and defining a first inner open space;
- 10 (ii) an the inner portion including a plurality of registered laminations each of substantially equal shape and dimension stacked one on top of the other, said inner portion of said stator core circumscribing and defining a second inner open space,
- 15 (b) at least a pair of shaded poles on said inner portion of said stator;
- (c) at least one bobbin on said inner portion of said stator;
- 20 (d) at least two reluctance gaps on said inner portion of said stator, the reluctance gaps each being spaced apart from one of said shaped poles along an arc by 90 degrees or less;
- (e) an armature rotatably mounted in said second inner open space.
- add
A2
25 ~~4. A concentric shaded multiple-pole subfractional horsepower induction motor including~~
- (a) a stator including
- 30 (i) an outer portion including a plurality of registered laminations each having a selected width and being of substantially equal shape and dimension and stacked one on top of the other, said outer portion circumscribing and defining a first inner open space;
- 35 (ii) an the inner portion including a plurality of registered laminations each of substantially equal shape and dimension stacked one on top of the other, said inner portion of said stator core circumscribing and defining a second inner open space,

(b) at least a pair of shaded poles on said inner portion of said stator;

5 (c) at least one bobbin on said inner portion of said stator;

(d) at least two pair of reluctance gaps on said inner portion of said stator, the reluctance gaps in each of said pair being spaced apart along an arc by less than forty degrees;

10 (e) a cylindrical armature rotatably mounted in said second inner open space.

5. A concentric shaded multiple-pole subfractional horsepower induction motor including

(a) a stator including

15 (i) an outer portion including a plurality of registered laminations each having a selected width and being of substantially equal shape and dimension and stacked one on top of the other, said outer portion circumscribing and defining a first inner open space;

20 (ii) an the inner portion including a plurality of registered laminations each of substantially equal shape and dimension stacked one on top of the other, said inner portion of said stator core circumscribing and defining a
25 second inner open space,

(b) at least a pair of shaded poles on said inner portion of said stator;

30 (c) at least one bobbin on said inner portion of said stator;

(d) a cylindrical armature rotatably mounted in said second inner open space, said armature having a selected diameter, the ratio of said diameter to said width of each of said stator laminations
35 ~~being in the range of 1:2.36 to 1:4.4~~